

REMARKS

Favorable reconsideration of the present application is respectfully requested.

Claims 1-15 remain active in the application.

Applicant wishes to thank Examiner Mackey for the courtesy of an interview on May 14, 2003, at which time the outstanding rejection was discussed. In particular, Applicant pointed out that Figure 13 of Irie '885 does not show mold bases on the upper base 14, and so this reference fails to teach a vulcanizing station having a housing shelf vertically having plural stages of the placing parts. Despite this, no agreement was reached regarding the rejected claims.

The claims have therefore been amended to further recite that the transfer station performs the transfer of the tire mold assembly by a rotating action of the transfer station and a rising and falling action of the transfer station. This is described, for example, at page 23 of the specification ("delivery of the tire mold assembly 1 between an optional stage of the placing parts of each housing shelf and the opening and closing station A is performed by the rotating action and rising and falling action of the transfer station D"). Applicant respectfully submits that this is not taught or suggested by any proper combination of the cited references.

Claims 1-6 and 15 stand rejected under 35 U.S.C. § 102 as being anticipated by the U.S. patent to Irie '885, particularly at Figure 13 and column 12 in the specification of the reference. Applicant respectfully submits that the amended claims nonetheless define over this reference.

During the aforementioned interview, it was the Examiner's position that, despite the fact that only a single vertical stage of mold bases 5a-5c is disclosed in Figure 13 of Irie, the specification nonetheless indicates that mold bases are provided at a second level on the base 14. Specifically, the Examiner pointed to the portion of the specification which described

that the mold carriage 13 (which the Examiner considers to be a “transfer station”) can be raised or lowered to be at the respective levels of upper and lower base molds 5 (column 12, lines 49-59). However, it is further noted that this same portion of the specification describes that the mold carriage 13 travels on the rails 4. Thus, whatever vertical elevation capability may be provided by the mold carriage, *it is nonetheless incapable of rotating*. Irie therefore fails to teach or suggest the presently claimed transfer station for transferring the tire mold assembly between a selected stage of the placing parts of the housing shelf and the placing part of the opening and closing station by a “rotating action of the transfer station” and a rising and falling action along the housing shelf of the vulcanizing station. The amended claims therefore clearly define over this reference.

Claims 7-14 were rejected under 35 U.S.C. § 103 as being obvious over Japanese ‘231 in view of Irie. The Examiner alleged that it would have been obvious in view of Irie to provide JP ‘231 with plural vertical stages of placing parts for placing tire mold assemblies, wherein a transfer station is vertically movable along a housing shelf. However, this rejection is also respectfully traversed in light of the amended claims.

JP ‘231 is directed to a tire vulcanizing system in which a transfer station D is rotatable to line up with any one of a number of vulcanizing stations C arranged around the transfer station. However, assuming, *arguendo*, that the embodiment of Figure 13 of Irie discloses a vulcanizing station having plural stages, those skilled in the art would nonetheless not have found it obvious to have combined Irie with JP ‘231, for at least the following reason.

The mold carriage (“transfer station”) 13 of Figure 13 in Irie carries two tire molds M (column 12, lines 52-54). The reason for this is that the carriage 13 is intended to carry tire molds M from two linearly arranged mold bases 5a-5c (column 12, lines 60-67). The

operation of the carriage 13 in the allegedly multi-level embodiment of Irie thus depends upon the carriage being able to move linearly on the rails 4 between the linearly arranged mold bases 5a-5c so as to operate on the molds in sequence. Rotation of the carriage 13 (transfer station) would be inconsistent with this intended manner of operation since the rotation of the carriage would exchange the order of the molds M on the carriage. Clearly, those skilled in the art would not have found it obvious to have drawn a teaching from a reference (Irie) whose “transfer station” must operate by linear movement to suggest a modification of a rotating transfer station in which the rotation of the transfer station remains in effect. See also M.P.E.P. § 2143.01 (“THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE”). Applicant therefore respectfully submits that no obvious combination of JP ‘231 and Irie would teach or suggest the subject matter of any of the claims.

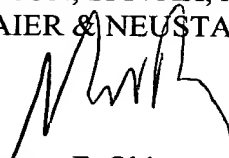
Concerning the rejection of paragraph 4, Applicant is at this time submitting a terminal disclaimer for overcoming this rejection.

Claim 9 has been amended in light of the rejection of paragraph 2 of the Office Action, which is believed to be moot.

Applicant therefore believes that the present application is in a condition for allowance and respectfully solicits an early Notice of Allowability.

Respectfully submitted,

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IN THE CLAIMS

--1. (Twice Amended) A tire vulcanizing equipment comprising:

a vulcanizing station having placing parts for placing tire mold assemblies movable in a closed state and a housing shelf vertically having plural stages of the placing parts;

an opening and closing station having a placing part for placing the tire mold assembly, an opening and closing device for opening and closing the tire mold assembly placed on the placing part of the opening and closing station, a carrying-out device for carrying a vulcanized tire from the tire mold assembly and a carrying-in device for carrying an unvulcanized tire to the tire mold assembly; and

a transfer station for transferring the tire mold assembly between a selected stage of the placing parts of the housing shelf and the placing part of the opening and closing station by a rotating action of the transfer station and a rising and falling action of the transfer station along the housing shelf of the vulcanizing station.

2. (Twice Amended) A tire vulcanizing equipment comprising:

a vulcanizing station having a housing shelf vertically having plural stages of placing parts for placing tire mold assemblies movable in closed state, which have pipings for supplying and discharging a vulcanizing/heating medium to the tire mold assemblies placed thereon;

an opening and closing station having a placing part for placing a tire mold assembly, an opening and closing device for opening and closing the tire mold assembly placed on the placing part of the opening and closing station, a carrying-out device for carrying a vulcanized tire from the tire mold assembly and a carrying-in device for carrying a unvulcanized tire to the tire mold assembly, the opening and closing station being connected to a carrying-out line of vulcanized tires to a following step and a carrying-in line of unvulcanized tires; and

a transfer station for transferring the tire mold assembly between the placing part of a selected stage of the housing shelf and the placing part of the opening and closing station by a rotating action of the transfer station and a rising and falling action of the transfer station along the housing shelf of the vulcanizing station.

9. (Amended) A tire vulcanizing equipment according to claim 8, wherein the transfer station has a rotating transfer device comprising a second delivering mechanism for delivering the tire mold assembly, a placing part for placing the tire mold assembly received by the second delivering mechanism, and a turntable rotatable so as to set the guide direction of the tire mold assembly by the second delivering mechanism to [an optional] a desired placing part direction.

15. (Twice Amended) A tire vulcanizing equipment comprising:
a vulcanizing station having a housing shelf having plural stages of placing parts for placing tire mold assemblies movable in a closed state, which have pipings for supplying and discharging a vulcanizing/heating medium to the tire mold assemblies placed thereon;
an opening and closing station having a placing part for placing the tire mold assembly, an opening and closing device for opening and closing the tire mold assembly placed on the placing part of said opening and closing station, a carrying-out device for

carrying a vulcanized tire from the tire mold assembly, and a carrying-in device for carrying a
unvulcanized tire to the tire mold assembly, the opening and closing station being connected
to a carrying-out line of vulcanized tires to a following step and a carrying-in line of
unvulcanized tires; and

a transfer station for performing the transfer of the tire mold assembly between a
selected stage of the placing parts of the housing shelf and the placing part of the opening and
closing station by a rotating action of the transfer station and a rising and falling action of the
transfer station along the housing shelf of the vulcanizing station.--